[002]   This application is a national stage completion of PCT/EP03/04020 filed April 17, 2003 which claims priority from German Application Serial No. 102 18 050.4 filed April 23, 2002.

[003]   FIELD OF THE INVENTION

[004]   ~~According to the preamble of claim 1, t~~The invention relates to a method for monitoring and error diagnosis for components of the drive train of a motor vehicle, which are controlled and/or regulated by means of signals generated by a calculation algorithm, especially for a transmission control.

[005]   BACKGROUND OF THE INVENTION

[010]   ~~According to the invention this problem is solved by the features of claim 1. Other developments and advantages of the invention result from the sub-claims.~~

[011]   SUMMARY OF THE INVENTION

[024]   BRIEF DESCRIPTION OF THE DRAWING

[025]   The invention ~~is explained in detail herebelow with the aid of the enclosed figure which~~ will now be described, by way of example, with reference to the accompanying drawing in which:

[026]   Fig. 1 represents a flow diagram of the first alternative of the inventive method.

[027]   DETAILED DESCRIPTION OF THE INVENTION

1-17. (CANCELED)

18. (NEW) A method for monitoring and diagnosing errors of drive train components of a motor vehicle which are one or more of controlled and regulated by means of signals generated by a calculation algorithm, especially for a transmission control, with at least one of transmission routes of critical signals and output variables are being monitored.

19. (NEW) The method according to claim 18, wherein monitoring results by means of a plausibility check of signal variables are generated by the calculation algorithm.

20. (NEW) The method according to claim 19, wherein for the plausibility check, the signal variables are re-read and evaluated or compared with an adequate value at least close to an output position of a signal transmission route.

21. (NEW) The method according to claim 20, wherein the output position is a last possible position of the signal transmission route.

22. (NEW) The method according to claim 18, wherein on one nominal output value, calculated by the calculation algorithm, a check variable is modulated and subsequently the re-read, modulated actual value is compared at an output position with a modulated nominal value.

23. (NEW) The method according to claim 22, wherein the modulated variable has one of no, or very slight, effect upon the output variable proper.

24. (NEW) The method according to claim 22, wherein for evaluating the re-read actual value, whether the difference of the successive check values exceeds a specific preset amount is checked.

25. (NEW) The method according to claim 22, wherein to evaluate the re-read actual value, the difference between the calculated nominal value and the re-read value is at least one of checked and compared with a modulated check variable.

26. (NEW) The method according to claim 19, wherein the plausibility check is carried out by means of a checking software extending parallel with the calculation algorithm.

27. (NEW) The method according to claim 26, wherein the signal variables generated by the calculation algorithm are directly compared with a check value calculated by the checking software.

28. (NEW) The method according to claim 27, wherein the checking software uses the same calculation algorithm and the same data on which are based the control and regulation of the components of the drive train.

29. (NEW) The method according to claim 26, wherein the calculation algorithm of the output value differs from that of the checking software.

30. (NEW) The method according to claim 29, wherein data drawn for the calculation are stored doubled.

31. (NEW) The method according to claim 26, wherein check data are stored in a compressed form, the check data being generatable by means of software.

32. (NEW) The method according to claim 18, wherein for a case of signal variables that are calculated only in certain situations, the calculation algorithm sets on a checking software, a check indicator to signal a momentary non-calculation of an output value, said output value being re-read in the checking software and directly compared with a fixed output variable such as zero and the output value not being calculated by the calculation algorithm.

33. (NEW) The method according to claim 18, wherein with the means of the used checking software, several signal transmission distances are examined on a plausible expenditure value.

34. (NEW) The method according to claim 18, wherein the checking software in program run check is examined.